



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140

OFFICE OF  
ENVIRONMENTAL CLEANUP

February 25, 2011

Mr. Jim McKenna  
Co-Chairman, Lower Willamette Group  
1519 SW Columbia, Suite A  
Portland, Oregon 97201

Mr. Bob Wyatt  
Northwest Natural & Chairman, Lower Willamette Group  
220 Northwest Second Avenue  
Portland, Oregon 97209

Re: Portland Harbor Superfund Site, Administrative Order on Consent for Remedial Investigation and Feasibility Study; Docket No. CERCLA-10-2001-0240  
Schedule for Remedial Investigation (RI) and Feasibility Study (FS)

Dear Messrs. McKenna and Wyatt:

On February 2, 2011, the Lower Willamette Group (LWG) requested a six month extension of the June 15, 2011 due date for the draft FS submittal. The letter also proposed a new schedule for delivery of a revised draft Remedial Investigation Report and revised draft Baseline Risk Assessment for Human Health and Ecology. We will address the schedule for each report separately, below.

This letter also provides EPA's response to the LWG's January 12, 2011 letter. That letter presented LWG's views on many of the same issues that were raised in its February 2, 2011 letter and described how the LWG will comply with the three directed comments in EPA's December 8, 2010 letter to: 1) move the RI data lockdown date from June 2008 to July 19, 2010; 2) draft the conceptual site model to link both current and historical sources to in-water contamination; and 3) include EPA PBDE fish tissue data in the BHHRA.

**Baseline Human Health Risk Assessment (BHHRA)**

In the February 2 letter, the LWG requested an extension date of June 15, 2011, to submit a revised draft BHHRA to EPA. EPA believes that this request is unreasonable and is directing the LWG to submit a revised draft BHHRA on May 2, 2011. EPA is also directing the LWG to provide the tables and calculations for the combined adult and child scenarios, evaluation of polybrominated biphenyl ethers (PBDEs), and breast milk scenarios by March 17, 2011 for EPA review and comment.



Basis for BHHRA Deadlines

1. On September 23, 2009, the LWG submitted a draft BHHRA to EPA.
2. In December 2009, EPA submitted preliminary comments to the LWG on the draft BHHRA that were determined to affect PRGs for development of a draft FS.
3. On July 19, 2010, EPA submitted a comprehensive comment set on the draft BHHRA and a revised draft was due within 90 days, October 14, 2010.
4. The only new exposure scenario that EPA required in the July 2010 comment set that affected the calculations in the draft BHHRA was combining the child and adult exposure scenarios. Although this was a new exposure scenario, the length of time the LWG has requested to revise the BHHRA is not warranted given the level of effort necessary to conduct the analysis of this scenario and incorporation into the BHHRA.
5. The LWG has been aware for several years that the inclusion of PBDEs in the revised draft BHHRA would be required. Inclusion of this information in the revised draft BHHRA does not warrant the requested schedule extension. Including PBDEs in the BHHRA was identified by EPA in December 2005 as a data gap. During development of Round 3B field sampling plans, EPA and the LWG agreed that EPA's Manchester Laboratory would perform the chemical analysis. The draft BHHRA presented an estimated maximum potential HQ of less than 1 for PBDEs using the maximum detected concentration for total PBDEs in the ODHS dataset (salmon, sturgeon and lamprey tissue) and the lowest RfD for any PBDE congener. EPA subsequently provided the results of the additional tissue analysis for carp and bass to the LWG on November 12, 2009. With the additional data analysis, EPA estimated that consuming fish contaminated with PBDEs resulted in hazard quotients ranging from 1 to 2. The LWG did not agree to include the PBDE data and evaluation in the BHHRA so on December 8, 2010, EPA directed the LWG to evaluate risks associated with PBDEs. EPA did not require the development of PRGs for PBDEs since tissue-sediment relationships have not been developed for PBDEs.
6. Including the breast feeding exposure scenario does not justify the requested schedule extension for submitting the BHHRA. EPA determined that this exposure should be included in the risk assessment in December 2005. EPA subsequently agreed with the LWG that this scenario would not be required for the draft BHHRA to allow EPA time to work with DEQ and EPA Headquarters and other regions on a methodology for evaluating this exposure scenario. A draft of DEQ guidance regarding this methodology was publicly available in May 2010 and finalized in October 2010. EPA informed the LWG that this methodology was to be used in revising the BHHRA in our July 2010 comments.
7. At the LWG's request, EPA agreed to extend the October 14, 2010 submittal deadline to engage in several meetings with the LWG regarding issues with comments on the draft BHHRA. The LWG provided a summary table showing resolution of the issues on November 17, 2010, and EPA advised the LWG of our determination that the vast majority of RI and Risk Assessment comments were resolved in our December 8, 2010 letter.

## **Baseline Ecological Risk Assessment (BERA)**

In the February 2 letter, the LWG requested an extension date of July 27, 2011 to submit a revised draft BERA to EPA. EPA believes that this request is unreasonable and is directing the LWG to submit a revised draft BERA, including all associated models used to estimate risk, on July 5, 2011.

### **Basis for BERA Deadline**

1. On September 2, 2009, the LWG submitted a draft BERA to EPA.
2. In December 2009, EPA submitted preliminary comments to the LWG on the draft BERA that were determined to affect PRGs for development of a draft FS.
3. On July 16, 2010, EPA submitted a comprehensive comment set on the draft BERA and required a revised draft BERA within 90 days, which was October 14, 2010.
4. The benthic risk evaluation was submitted separately from the draft BERA on November 13, 2009, and supporting information was provided January 20, 2010. EPA comments on the benthic risk evaluation, including an updated logistic regression model developed by Jay Field, were submitted separately to the LWG on September 27, 2010.
5. EPA agreed to extend the October 14, 2010 deadline at the LWG's request to engage in several meetings with the LWG regarding issues with the BERA comments and models. All significant issues regarding use of the LRM and EPAs comments were resolved in principle as of December 13, 2010. The benthic approach agreed to is documented in Attachment B to LWG's January 12, 2011 letter. EPA is in general agreement with the approach as described in Attachment B to the LWG's letter with some clarifications that are provided as an enclosure to this letter.

## **Remedial Investigation Report (RI)**

In the February 2 letter, the LWG requested an extension date of September 28, 2011, to submit a revised draft RI to EPA. The LWG also expressed its desire not to have substantive or new comments provided by EPA on the revised draft. EPA cannot provide assurances that it will not make new comments or request revisions to the draft RI. However, one way that the likelihood of substantive new comments can be avoided is by submittal of the revised draft RI in phases to afford EPA the opportunity to review and comment, modify or direct changes to chapters of the revised draft RI prior to it being submitted in total form. Based on this review scenario and EPA's commitment to provide comments, modifications, or direction to the LWG within 30 days of submittal of each section (provided only one section is provided within a 30-day period; additional time will be required for EPA's review if multiple sections are provided), EPA agrees that the extension date of September 28, 2011, is reasonable and approved for submittal of the revised draft RI. EPA also agrees that, with the inclusion of the data sets identified in Attachment A to the LWG's January 12, 2011 letter, the data set for the RI is complete. EPA and LWG have also reached agreement on the path forward for the revision of the CSM directed comments, as documented in Gene Revelas' February 8, 2011 email.

EPA directs the LWG to submit a schedule commencing on March 21, 2011 and ending July 5, 2011 for submittal of the following preliminary revised sections, including all associated

tables, figures, maps, and appendices, of the revised draft RI by March 11, 2011 for EPA approval:

**Section**

---

Section 3: Current Environmental Setting

Section 4: Identification of Sources

Section 5: In-River Distribution of Contaminants

Section 6: Loading, Fate, and Transport for Select Indicator Contaminants

Section 7: Determination of Background Concentrations for Contaminants

Based on this schedule, the LWG shall provide the deliverables and should have ample time to resolve and incorporate EPA's comments, modifications or directions into the revised draft RI prior to a submittal date of September 28, 2011. If the LWG does not comply with this monthly submittal schedule, the entire revised RI Report will be due no later than August 1, 2011.

**Development and Screening of Remedial Alternatives**

Pursuant to the AOC (Section VII, Paragraph G) and the SOW (Section 9), the LWG was to provide under Task 7 a Development and Screening of Remedial Alternatives for the Portland Harbor Superfund Site. As noted in our December 21, 2010 letter, EPA agreed to check-in meetings in lieu of an alternatives screening document in the interest of expediting the project schedule. Per agreements with EPA, the LWG was to provide this deliverable, and additional information on FS tools, as a presentation, with supporting materials, in a check-in meeting on December 14, 2010. In our December 21, 2010 letter EPA notified the LWG that it had failed to meet this obligation under the AOC, for the reasons further described in that letter, because it had not provided the necessary content of the Alternatives Screening Check-in process. EPA also advised the LWG that in order to meet its obligations under the AOC the LWG must submit the alternative development and screening information that was not provided for the December 14, 2010 meeting. The LWG's February 2, 2010 letter did not respond to this issue or provide a submittal deadline specifically for an alternatives screening document. The LWG's proposed Portland Harbor RI/FS Schedule shows a line item for an FS Check-in with EPA on June 29, 2011, but it does not say that an alternatives screening would be submitted at this meeting, nor does a meeting alone meet the requirement for submittal of an alternatives screening deliverable.

As stated in our December 21 letter, the LWG is not in compliance with the AOC for failure to present the alternatives screening analysis in the December 14, 2010 meeting. EPA has not agreed to an extension to the December 14 deadline. In accordance with Section XIX., Paragraph 5.r., stipulated penalties are accruing on this late deliverable. The LWG should submit this deliverable as soon as possible, however, if the LWG submits the alternative screening analysis on or before April 1, 2011, EPA will use its discretion to waive imposition of stipulated penalties consistent with Section XIX, Paragraph 1. If the LWG refuses to submit a Development and Screening of Remedial Alternatives by April 12, 2011, EPA, in addition to assessing stipulated penalties may also take over the work or otherwise direct the LWG on the Alternatives for the FS.

As previously directed by EPA, the Alternatives Development and Screening must follow EPA's 1988 RI/FS guidance and 2005 Contaminated Sediment Remediation guidance and incorporate EPA's comments provided on December 18, 2009. To clarify EPA's expectations for this deliverable for Portland Harbor, the LWG is to first determine site-wide General Response Actions (GRAs), conduct a site-wide Technology Screen (TS) for the GRAs, and then assemble and screen site-wide Remedial Action Alternatives (RAAs). The LWG is then to evaluate each the site-wide GRAs, technologies, and alternatives for each of the AOPCs. EPA is not requiring the LWG to provide the results of the AOPC to SMA conversion as part of the alternatives screening deliverable; however, it is expected that the LWG will present the process for converting AOPCs to SMAs and provide examples using three (3) AOPCs at a meeting held on or before August 4, 2011 to ensure that EPA agrees with the methodology prior to the LWG submittal of a draft FS.

#### Basis for Alternatives Screen and Development Deadline

On November 17, 2009, the LWG presented examples of the Alternatives Development and Screening Evaluation. EPA provided comments on this presentation in a letter dated December 18, 2009. EPA also provided direction and guidance on the use of PRGs (April 2010) in the FS, CDF performance, standards (April 2010), approved the calibration of the QEAfate model (July 2010) and the mitigation framework (August 2010) which were identified by the LWG's consultants as critical path elements for the FS.

As stated in EPA's December 21, 2010, letter, the AOC, SOW, and original RI/FS Work Plan required the submittal of an alternatives screening document prior to the submittal of a draft FS. In place of this deliverable, EPA agreed to an alternatives screening check-in process with milestone dates that included two days of meetings: 1) December 7, 2010, to review the FS tools that would be used in the alternatives development, screening and evaluation; and 2) December 14, 2010, for presentation of the results of the alternatives development and screening evaluation. EPA agreed to these check-in meetings in lieu of submittal of a Development and Screening of Remedial Alternatives document in the interest of expediting the FS process and schedule, as desired by both parties.

The EPA and LWG jointly developed the structure and content of the meetings, which were documented and provided by the LWG on July 1, 2010 (*Draft Objectives, Agendas, and List of Topics to be Covered in Portland Harbor FS Alternatives Screening Check-in Process*). The LWG verified the purpose and content of the meetings during our project managers meeting on October 29, 2010, and the LWG's FS consultant indicated that they expected to provide advance meeting materials on November 18, 2010, for the FS Tools meeting and November 25, 2010, for the Alternatives Screening Check-in meeting. The LWG has had all of the necessary information to produce an alternatives screening analysis for well over a year. It is reasonable for the LWG provide this analysis immediately but no later than April 1, 2010.

## Feasibility Study Report (FS)

In the February 2 letter, the LWG requested an extension date of December 14, 2011, to submit a draft FS to EPA. The LWG further states in its letter that this date is contingent upon EPA's conditional approval of the revised drafts of the RI, BHHRA, and BERA. EPA disagrees this linear approach is a necessity. The LWG previously did not think it was necessary either. However, we currently do not believe that the LWG would be able to meet the June 15, 2011 due date for the draft FS and EPA believes that the technical analysis for the FS would require more time than the remaining four (4) months. EPA therefore directs the LWG to produce a draft FS by November 15, 2011. Further, the LWG is to conduct a check-in meeting with EPA and partners on key FS elements, including RALs, as soon as possible, but no later than June 22, 2011. All documents for this check-in meeting shall be delivered to EPA at least 2 weeks prior to the scheduled meeting date.

As a reminder, it is LWG's responsibility to include all areas under early action evaluation in the draft Feasibility Study, including Terminal 4, Gasco/Siltronic, and Arkema. We expect that each LWG member working under an AOC is providing all information to the LWG for incorporation into the draft FS. The Harbor-wide FS must weigh alternatives wherever COCs are above acceptable risk levels. Specific information should also be solicited from each project including, but not limited to: the Terminal 4 final 60% design, Gasco/Siltronic EE/CA, and Arkema additional sediment core information. The early action work should help the LWG produce more robust alternatives analysis for these areas, and better cost estimates. The LWG should update this information as needed with the latest Harbor-wide context and process as necessary, for example, if dioxin/furans are of equal concern in weighing alternatives off of the Arkema Site. It should not be assumed that any of these early action processes will fully evaluate alternatives where contaminants may have been comingled downstream, which the Harbor-wide FS should again include wherever COCs are above acceptable risk levels.

Additionally, as we have discussed, it is EPA policy to enhance the environmental benefits of federal cleanup programs by promoting technologies and practices that are sustainable. Expectations for green cleanup and the policy itself are posted at: <http://yosemite.epa.gov/R10/extaff.nsf/programs/greencleanups>. Each remedial alternative should incorporate green remediation technologies. This should include consideration of green remediation factors for each alternative, including such factors as reporting and tracking specific quantities of materials reduced, reused, or recycled; carbon or greenhouse gas reductions; and water conserved or replenished. Use of these and other green remediation technologies will be standard unless a site-specific evaluation demonstrates impracticability or favors an alternative green approach. This policy does not fundamentally change how and why cleanup decisions are made, but calls for more sustainable methods of implementing cleanups. A comprehensive set of greener approaches to site cleanup may be found at [www.clu-in.org/greenremediation](http://www.clu-in.org/greenremediation) and [www.epa.gov/region09/cleanup-clean-air](http://www.epa.gov/region09/cleanup-clean-air). Most emphatically, this policy is not intended to trade off environmental protectiveness for other benefits such as fewer carbon emissions. The FS should include an analysis of how efficiently each alternative can be implemented or how "green" it can be. The policy is not an invitation to state or argue the self-evident facts that doing less uses less energy or has a smaller carbon footprint, no action uses the least energy, or capping is less energy intensive than dredging.

Basis for Draft FS Deadline

For well over two years, EPA and the LWG have had an understanding to produce the draft FS concurrent with EPA's review of the draft RI and BRAs. Such concurrent development of an RI and FS is consistent with EPA RI/FS Guidance. Consequently, the EPA has worked with the LWG since early 2009 in scoping the FS and reaching agreements on key issues to allow the LWG to progress in development of the draft FS without finalizing the RI and BRAs. The EPA has put substantial resources into meeting with the LWG and reaching these agreements. The EPA worked with the LWG in early 2010 to develop an FS schedule which resulted in a draft deliverable due on June 15, 2011; this date was specified by EPA in a letter dated July 19, 2010. The LWG has already expended eight (8) months and has not even produced an Alternatives Development and Screening document or provided this information in a presentation. Both the AOC and the SOW do not require EPA approval of the RI or BRAs prior to development of a draft FS. Further, EPA's guidance discusses the parallel process of RI and FS development concurrently. EPA believes that the LWG has all the information necessary to produce a draft FS.

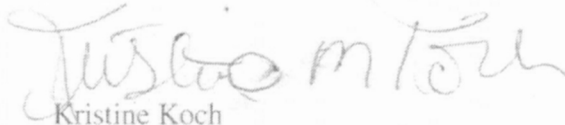
EPA understands that there are a lot of deliverables due this year; however, EPA believes that the LWG has ample time to develop these documents and further delays beyond those granted in this letter will not be accepted. EPA is concerned that the LWG's unwillingness to accept EPA's comments and desire to keep discussing the same issues they have with the comments in multiple meetings has only resulted in EPA having to direct the incorporation of information and schedule delays. Notwithstanding EPA's concerns, we still strongly advise the LWG to continue to coordinate its work on the draft RI, BRAs, and FS reports with EPA. EPA is willing to meet or provide additional guidance on specific issues on the overall process, as appropriate. In particular, EPA believes that continued discussions and exchange of key information will be beneficial in meeting our expectations for these deliverables.

If you have any questions regarding these matters, please contact Chip Humphrey at (503) 326-2678 or Kristine Koch at (206) 553-6705. All legal inquiries should be directed to Lori Cora at (206) 553-1115.

Sincerely,



for Chip Humphrey  
Remedial Project Manager



Kristine Koch  
Remedial Project Manager

Encl.

cc: Jim Anderson  
Oregon Department of Environmental Quality

Rob Neely  
National Oceanic and Atmospheric Administration

Ted Buerger  
U.S. Department of Interior  
U.S. Fish and Wildlife Service

Brian Cunninghame  
Confederated Tribes of the Warm Springs Reservation of Oregon

Rose Longoria  
Confederated Tribes and Bands of the Yakama Nation

Michael Karnosh  
Confederated Tribes of the Grand Ronde Community of Oregon

Tom Downey  
Confederated Tribes of the Siletz Indians

Audie Huber  
Confederated Tribes of the Umatilla Indian Reservation

Erin Madden  
Nez Perce Tribe

Greg Ulirsch  
ATSDR

Kurt Burkholder  
Oregon Department of Justice

David Farrer  
Oregon Environmental Health Assessment Program

Rick Keppler  
Oregon Department of Fish and Wildlife